

gressive in trumpeting its achievements. In 2001, for instance, the company reported it had cloned a human embryo, but the embryo failed to develop beyond the six-cell stage. Advanced Cell is currently seeking to raise money through a private placement.

Scientists who weren't involved in the retinal-cell study, but who have reviewed it, were nevertheless impressed. "This is a very important step," says Sally Temple of Albany (N.Y.) Medical College, a leading expert in neuronal stem cells. "The work being reported is sound; these are unequivocally RPE cells. This seems to be a very promising use of embryonic stem cells."

In large part that's because the eye is much more accessible than the brain, where cells to replace those lost in Alzheimer's disease or Parkinson's disease would have to be transplanted. And unlike brain neurons, the retinal cells don't have to form complicated connections—synapses—with other cells in order to function.

"When transplanting RPE cells, wiring is not an issue and access is not a problem," says Jeff Stern, a retinal surgeon in Albany who has tracked both animal and human experiments using transplants of RPE cells to treat blindness.

Stem cells come from days-old embryos and have the potential to develop into any of the 200-plus kinds of cells found in the human body. In theory at least, that makes them a potential source of replacement cells for those destroyed by diseases such as Parkinson's, juvenile diabetes and spinal-cord injury. They are also the focus of an impassioned ethical debate, because in order to harvest embryonic stem cells, the embryos must be destroyed.

*Please Turn to Page R5 Column 1*